TABLE 2.—*Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during September 1943. Directions given in degrees from North (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (402 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (388 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (15 m.)			Sault Ste. Marie, Mich (230 m.)			Seattle, Wash. (12 m.)			Spokane, Wash (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	273	5.2	29	148	2.7	30	76	0.6	30	281	0.6	30	9	2.0	30	270	0.7	29	236	1.8	29	76	2.2	30	293	3.9	30	279	2.9	30	294	2.9	30	279	1.2	27	316	1.4
500	30	293	2.4	29	156	2.6	30	183	.5	30	243	.7	...	...	...	30	318	1.0	29	239	2.5	29	88	3.2	30	301	3.0	30	281	3.6	30	10	1.3	...	...	...	27	328	1.6
1,000	25	226	.9	29	163	2.6	29	222	.6	30	246	.5	30	7	2.0	29	270	1.3	28	248	3.4	29	90	4.3	28	270	1.3	30	271	4.6	25	33	.6	30	243	1.8	25	325	1.5
1,500	25	189	1.5	29	174	2.6	29	264	2.4	30	242	.8	30	324	2.5	28	258	2.8	25	259	5.8	29	99	4.5	28	225	1.4	27	266	6.3	24	347	.2	29	254	1.9	25	305	2.7
2,000	25	182	1.8	28	216	2.3	26	265	4.9	30	233	.8	30	302	3.1	27	271	5.3	21	260	9.0	26	93	3.7	27	202	1.6	21	268	8.9	24	295	1.4	29	260	3.4	23	295	4.3
2,500	25	186	2.6	26	270	3.0	25	275	7.8	30	252	.7	30	288	5.4	27	275	7.2	19	266	8.9	23	87	2.6	26	199	2.7	16	276	8.3	23	287	2.4	28	275	3.5	23	287	5.0
3,000	25	188	3.9	24	285	5.1	25	273	9.1	30	230	.4	29	280	7.8	26	278	7.7	18	272	9.7	20	98	1.7	26	190	3.2	13	279	8.9	23	282	3.5	28	286	5.1	22	285	6.3
4,000	25	196	4.2	23	291	8.4	22	293	10.5	30	274	1.5	26	298	11.9	21	281	9.4	12	286	10.5	16	42	1.2	21	183	4.6	...	...	...	18	263	3.9	25	301	7.9	21	281	7.5
5,000	23	211	4.9	22	292	10.2	21	285	14.7	29	263	1.4	23	298	13.4	17	285	9.6	...	...	...	14	348	4.0	16	221	3.2	...	...	...	14	285	5.9	24	298	9.1	17	283	9.0
6,000	22	216	4.9	22	300	10.2	20	290	17.2	25	285	2.2	20	299	14.6	15	288	12.6	...	...	...	10	337	5.6	12	278	3.6	...	...	...	13	290	5.2	23	300	10.7	14	270	12.3
8,000	20	244	6.0	18	291	11.1	10	292	16.1	23	278	5.6	18	299	18.0	10	296	16.2	...	...	...	10	304	8.2	...	...	...	...	...	...	11	255	5.9	19	307	11.9	...	...	...
10,000	16	242	7.8	15	275	17.5	...	...	...	20	266	13.7	15	296	18.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	299	13.3	...	...	...
12,000	12	252	7.6	10	264	25.5	...	...	...	14	266	18.5	12	313	18.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	305	18.6	...	...	...

TABLE 3.—*Maximum free-air wind velocities (m. p. s.), for different sections of the United States, based on pilot-balloon observations during September 1943*

Section	Surface to 2,500 meters (m. s. l.)					Above 2,500 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast [1]	30.6	n	640	15	Nantucket, Mass.	41.0	wsw.	4,790	9	Caribou, Maine	57.6	ssw.	12,870	14	Albany, N. Y.
East-Central [2]	25.8	nne.	990	29	Hatteras, N. C.	41.6	w.	4,200	16	Cincinnati, Ohio	64.0	wnw.	10,310	17	Huntington, W. Va.
Southeast [3]	20.5	e.	610	26	Tampa, Fla.	24.4	w.	3,940	24	Spartanburg, S. C.	58.8	wnw.	13,270	24	Birmingham, Ala.
North-Central [4]	52.2	w.	2,150	7	Duluth, Minn.	42.8	wsw.	4,060	7	Alpena, Mich.	59.1	nnw.	11,230	20	St. Paul, Minn.
Central [5]	30.3	sw.	1,740	18	Omaha, Nebr.	38.0	w.	4,600	7	Moline, Ill.	54.6	w.	17,620	28	Fort Wayne, Ind.
South-Central [6]	30.0	nne.	2,130	16	San Antonio, Tex.	26.6	wnw.	3,810	8	Little Rock, Ark.	63.0	sw.	16,100	16	Oklahoma City, Okla.
Northwest [7]	33.3	wsw.	2,160	21	Pocatello, Idaho	37.4	nw.	4,950	7	Billings, Mont.	72.0	w.	19,360	25	Great Falls, Mont.
West-Central [8]	29.8	w.	2,470	2	Rock Springs, Wyo.	29.7	w.	2,500	2	Rock Springs, Wyo.	59.0	w.	17,470	27	Reno, Nev.
Southwest [9]	27.1	s.	1,910	14	Roswell, N. Mex.	45.3	s.	3,000	14	Roswell, N. Mex.	52.2	wnw.	13,150	13	Santa Maria, Calif.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS

By BENNETT SWENSON

Precipitation during September was decidedly below normal over the greater part of the country. Areas having above normal precipitation were confined mainly to the west and central Gulf of Mexico regions, the South-Central States and portions of Arizona and New Mexico.

Abnormally low river stages prevailed in most of the eastern and southern sections of the country except in northern New England, and southern Louisiana and Mississippi.

Unusually intense local rains along the Arkansas River above Great Bend, Kans., resulted in a sharp rise in that river, reaching a crest of 8.2 feet (.2 foot above flood stage) at Great Bend on September 6. Severe thunderstorms in scattered areas in southern California on September 24, resulted in some damage from washing. From reports at hand, the areas affected were in the vicinities of Perrin and Blythe, Calif., and between Lancaster and Mojave, Calif. No other flooding of consequence was reported.